



UNITED STATES PATENT AND TRADEMARK OFFICE

RU
UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/506,783	09/07/2004	Raymond Wu	2360-0419PUS1	7006
2292	7590	06/15/2005	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			KIM, WESLEY LEO	
			ART UNIT	PAPER NUMBER
			2683	

DATE MAILED: 06/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/506,783	WU, RAYMOND
	Examiner Wesley L. Kim	Art Unit 2683

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 08 June 2005.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-12 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-11 is/are rejected.
 7) Claim(s) 12 is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 07 September 2004 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
 Paper No(s)/Mail Date 9/7/04.

4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____.
 5) Notice of Informal Patent Application (PTO-152)
 6) Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 12 objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from any other multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claim has not been further treated on the merits.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Mishra et al (U.S. Patent 5805599).

Regarding Claim 1 and 8, Mishra et al (Mishra) teaches, a method for allocating radio resources (Col.1:65-Col.2:2, allocate channels) of a radio communication network (Col.2:67-Col.3:9, cellular network) to a plurality of users (8, 9)(Fig.1:110 destination is a user and Col.1:65-Col.2:2, sources are plurality of users), where a user is allocated a certain transmission capacity (Col.1:65-Col.2:2, certain bandwidth), characterised in that a utilization factor relating to said transmission capacity is determined (Col.4:12-13, actual rate of a connection (i.e. utilization factor) to a source (i.e. user)) and the radio resources

are allocated depending on said utilization factor where determining said utilization factor includes determining how much of said transmission capacity is actually used by said user (Col.4:10-Col.5:45, the utilization factor is used to determine the reduction of the allocation (ACR), which equals the actual newly allocated resource (Col.5:44-45 and Col.5:36-39)).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 2, 3, 9, 10 rejected under 35 U.S.C. 103(a) as being unpatentable over Mishra et al (U.S. Patent 5805599) in view of Jurkevich et al (U.S. Patent 5164938).

Regarding Claim 2, 3, 9, and 10, Mishra teaches all the limitations as recited in Claim 1, 2, 8, 8, respectively, however Mishra **is silent on** determining the utilization factor by detecting (18) time intervals in which the user does not exploit the transmission capacity allocated to him.

Jurkevich et al teaches that it is well known that all the users in the network contend for any unused bandwidth in each frame, according to their individual needs (Col.2:39-46). The examiner interprets this to read on the claim since one of ordinary skill in the art would determine the unused bandwidth (i.e transmission capacity) in some manner, such as measuring the time intervals in

which a user does not exploit the capacity so that, that the unused bandwidth associated with that time interval may be allocated to another user.

It would have been obvious to one of ordinary skill at the time of the invention to modify Mishra, such that the utilization factor is detected (18) by measuring the time intervals in which the user does not exploit the transmission capacity allocated to him, to provide a method of measuring or determining segments of unused bandwidth so that it may be allocated to another user of the network who is need of more transmission capacity.

3. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mishra et al (U.S. Patent 5805599) and Jurkevich et al (U.S. Patent 5164938) in further view of Eriksson (U.S. Pub 2003/0103478 A1).

Regarding Claim 4, Mishra and Jurkevich teach all the limitations as recited in Claim 3, however the combination **is silent on** the time intervals being detected by directly monitoring (16.4) a radio interface (10) of the radio communication network and detecting time periods without any data throughput.

Eriksson teaches the first layer of the OSI mode is used for the transmission of bit streams (Par.4) and the bit streams are transmitted from the base station to a mobile phone (Par.5 and Fig.1). One of ordinary skill in the art would envision monitoring the base station because it is the source at which the data stream is transmitted and it would be easier to measure the parts of the data stream which contain unused segments of data at the point of transmission rather than while the data stream is being transmitted in the air interface.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Mishra and Jurkevich, such that the time intervals being detected by directly monitoring (16.4) a radio interface (10) of the radio communication network and detecting time periods without any data throughput, to provide a method of measuring unused segments of the data stream quickly and quickly reallocate those unused segments throughout the network.

Regarding Claim 5, Mishra and Jurkevich teach all the limitations as recited in Claim 3, however the combination **is silent on** that a multilayer protocol stack with a first layer is used to transmit data between a transmitter (8) and a receiver (9) and said time intervals are detected by monitoring (16.5) said first layer directly in the transmitter and/or the receiver.

Eriksson teaches the first layer of the OSI mode is used for the transmission of bit streams (Par.4) and the bit streams are transmitted from the base station to a mobile phone (Par.5 and Fig.1). One of ordinary skill in the art would envision monitoring the first layer in the base station or mobile phone to determine the time intervals because they are the sources at which the data stream is transmitted and received and it would be easier to measure the parts of the data stream which contain unused segments of data at the point of transmission or at the point of reception rather than while the data stream is being transmitted in the air interface.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Mishra and Jurkevich, such that a multilayer protocol

stack with a first layer is used to transmit data between a transmitter (8) and a receiver (9) and said time intervals are detected by monitoring (16.5) said first layer directly in the transmitter and/or the receiver, to provide a method of measuring unused segments of the data stream quickly and quickly reallocate those unused segments throughout the network.

4. Claim 6 rejected under 35 U.S.C. 103(a) as being unpatentable over Mishra et al (U.S. Patent 5805599) and Jurkevich et al (U.S. Patent 5164938) in further view of Agin (U.S. Patent 6564067 B1).

Regarding Claim 6, Mishra and Jurkevich teach all the limitations as recited in Claim 3, and Mishra further teaches the user is allocated radio resources by allocating a data transmission rate (Col.6;12-18, transmission rate is changed), however the combination **is silent on**, said time intervals being detected by subtracting a target transmission time for transmitting a certain amount of data with said data transmission rate from an actual transmission time required by the user to transmit said amount of data, where the actual transmission time is measured and the target transmission time is calculated by dividing said amount of data by said data transmission rate.

Agin teaches of transmissions of data interrupted by transmission gaps (i.e. segments when no data is transmitted) and the transmission rate is increased to compensate for the effects of the transmission gaps in order to meet the quality of service (Abstract). To one of ordinary skill in the art it is obvious that the time interval of the transmission gap is determined so that the transmission

rate can be increased to accommodate for the transmission game so the quality of service can be met. The reference does not provide how this time interval is determined however, it is obvious that a time interval is determined and further, the current claim does not lend any reasons why the determination of the time interval by subtracting an actual transmission time from an expected time is advantageous over another method.

It would have been obvious to one of ordinary skill in the art to modify Mishra and Jurkevich, such that said time interval is determined, to provide a method for reallocating resources accordingly, throughout the network, so that a set quality of service may be met.

5. Claims 7 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mishra et al (U.S. Patent 5805599) in view of Zellner et al (U.S. Patent 6069882).

Regarding Claim 7 and 11, Mishra teaches all the limitations as recited in claims 1 and 8, respectively, however Mishra is **silent on** the transmission capacity allocated to the user comprising several transmission channels and the utilization factor is determined separately for each transmission channel.

Zellner et al teaches a user may be assigned multiple channels (Col.9:34-36)

Mishra teaches the utilization factor for the totality of transmission channels is determined (Col.4:12-13) but not for each individual channel, however the examiner notes that the determination of the utilization for each individual channel is a sub-step of the determination of the utilization factor for

the totality of transmission channels and Mishra is merely reaching the end result in a quicker fashion. The current claim does not provide a reason why the determination of the utilization factor for each channel is advantageous over the determination of the utilization factor for the totality of channels.

It would have been obvious to one ordinary skill in the art at the time of the invention to modify Mishra, such that the transmission capacity allocated to the user comprise several transmission channels and the utilization factor is determined separately for each transmission channel, to provide a method of determining the utilization factor for the totality of channels in a step by step fashion.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wesley L. Kim whose telephone number is 571-272-7867. The examiner can normally be reached on Monday-Friday 9:00am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Trost can be reached on 571-272-7872. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

WLK



WILLIAM TROST
INTERDISCIPLINARY PATENT EXAMINER
TECHNOLOGY CENTER 2600